

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER No. 87-7

WASTE DISCHARGE/CLOSURE REQUIREMENTS FOR:

SOLANO COUNTY SANITARY LANDFILL NORTH CANYON BLAKE COURT AREA, SOUTHAMPTON COMPANY, CITIZENS SAVINGS AND LOAN ASSOCIATION, ALMA ASSOCIATES AND ALMA ASSOCIATES DBA SOUTHAMPTON COMPANY, CLASS III DISPOSAL SITE, BENICIA, SOLANO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. Southampton Company, Citizens Savings and Loan Association, Alma Associates, and Alma Associates DBA Southampton Company, the site legal owner, (hereinafter referred to collectively as the discharger) by application dated November 13, 1986 has applied for revision of their Waste Discharge Requirements, for the closure of the existing Class III landfill located on approximately 5 acres in Benicia, Solano County. The project site, as shown on Attachment A, which is incorporated herein and made a part of this Order, is located north of Interstate Highway 780 at Columbus Parkway in west Benicia.
2. On October 16, 1979 the Board adopted Order No. 79-146 which prescribed Closure Requirements for the site. Order No. 79-146 required the discharger to close the site according to the Board approved closure plan.
3. The landfill, as it existed in 1979, consisted of waste fill placed in two canyons; the North and East Canyon fill areas. (See Attachment A) Disposal operations at the landfill ceased in 1980. The original closure plan required the discharger to remove all wastes from the North Canyon, and dispose of this waste in the East Canyon, in preparation for developing the North Canyon area for residential housing. The discharger failed to remove all the waste from the North Canyon. There is approximately 15,000 cubic yards of wastes still remaining in a side canyon off the main canyon in a cul-de-sac area now called Blake Court. (See Attachments B and C which are incorporated herein and made a part of this Order), The main canyon is now developed in residential housing after all wastes were removed. No houses were built in the Blake Court Area. Closure of the East Canyon Area is covered under separate requirements; this Board's Order No. 86-96.

4. The landfill is located in a westward draining valley of the Northern Coast Ranges. The landfill is underlain with thick-bedded sandstone and thin-bedded shale bedrock of the upper Cretaceous Panoche Formation. Overlying the bedrock, and immediately beneath the landfill, is a thin layer of clayey sand material derived from weathering of the sedimentary rocks. The permeability of the alluvial clay sand material was found to be on the order of  $1 \times 10^{-7}$  cm/sec. and the bedrock was found to have permeabilities ranging from  $4.4 \times 10^{-5}$  to  $1 \times 10^{-6}$  cm/sec..
5. Groundwater exists beneath the site in three zones: 1) within the alluvial soils, 2) perched between the alluvial soils and the weathered bedrock, and 3) in the weathered bedrock. The groundwater in the alluvial soils in the valley may be a source of recharge into the buried refuse. A subdrain system drains the groundwater beneath the refuse and should provide some protection against the groundwater rising and saturating the refuse.
6. The groundwater in the weathered bedrock beneath the alluvial sediment groundwater is of very limited quantity and the only beneficial use for the groundwater at the site is for recharge of the unnamed creek that discharges from the site into Southampton Marsh and Bay. A well downgradient and west of the site has been used in the past for domestic supply. This well was constructed in the shallow alluvial sediments and weathered bedrock beneath the valley and produced only a minimal amount of useable water.
7. The refuse beneath Blake Court is covered with 3 to 18 feet of low permeability clayey type soil. Based upon very limited data it appears that the refuse is separated from the underlying groundwater by approximately 15 feet of clayey soils. Although the slope of the Blake Court area is less than the required minimum 3% there is a drainage system surrounding the area that diverts surface runoff around the area where the refuse is buried. Because of the small area of buried refuse and the thickness of clayey fill placed over the refuse only minor amounts of water should percolate into the refuse.

8. The refuse beneath Blake Court is highly decomposed; as indicated by the low levels of methane gas being detected in four probes installed in the refuse. In 1982 the methane detected in the probes ranged from 4 to 15 percent. (Lower explosive limit for methane is 5%) In July 1983 the discharger injected 225 pounds of lime slurry into 35 holes spread over the area of Blake Court at depths ranging from 10 to 24 feet below the ground surface. The lime was injected in an effort to raise the pH of the buried refuse to reduce the amount of methane being produced. The lime injection program, and/or the additional time for decomposition of the refuse, has reduced the levels of methane being produced to levels which should not pose a threat to any of the adjacent properties. Current levels of methane detected are below 4% methane and appear to be decreasing.
9. Surface runoff from the site, and groundwater beneath the site, discharges into an unnamed creek and into Southampton Marsh and Southampton Bay; and eventually into Carquinez Straits and San Pablo Bay.
10. The beneficial use of the groundwater found in the alluvial deposits at the site is for domestic supply, and the beneficial uses of the unnamed creek, Southampton Marsh, Southampton Bay, Carquinez Straits, and San Pablo Bay are:
  - a. Industrial water supply
  - b. Navigation
  - c. Ocean Commercial and Sport Fishing
  - d. Water contact recreation
  - e. Non-contact water recreation
  - f. Estuarine Habitat
  - g. Wildlife habitat
  - h. Preservation of rare and endangered species
  - i. Fish migration and spawning
11. The discharger submitted, as a part of their Report of Waste Discharge, the following reports: 1) "Blake Court Southampton Unit 4 Site Closure Report", ENGEO Inc. May 22, 1985, and 2) "Supporting Site Information Solano County Sanitary Landfill", EMCON Associates November 1986. The above cited reports, as modified by the requirements of this Order, propose to close the landfill in accordance with the requirements of Subchapter 15 and are hereby incorporated as a part of this Order.

12. The Closure Plan section of the discharger's Report of Waste Discharge is deficient in three areas: 1) the plan failed to provide locations for the establishment of two permanent monuments from which the the location and elevation of wastes, containment structures, and monitoring facilities can be determined throughout the post closure maintenance period, 2) the plan failed to provide evidence of an irrevocable closure fund or other means to ensure closure and post-closure maintenance according to the closure plan, and 3) the plan failed to establish background groundwater quality according to the requirements of Article 5 of Subchapter 15 for the purpose of establishing Water Quality Protection Standards (WQPS) for the site. These three deficiencies will be addressed through compliance with the requirements of this Order.
13. The Regional Board adopted a revised Water Quality Plan for the San Francisco Bay Basin on July 1, 1982 and this Order implements the water quality objectives stated in that plan.
14. This project constitutes a minor modification to land and the continued operation of an existing facility with changes to meet public health and safety standards and is therefore categorically exempt from the provisions of the California Environmental Quality Control Act (CEQA) pursuant to Sections 15304 and 15301 of the Resources Agency Guidelines.
15. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements, and has provided them with an opportunity to submit their written views and recommendations.
16. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Southampton Company, Citizens Savings and Loan Association, Alma Associates, and Alma Associates DBA as Southampton Company, and any other persons that currently or in the future own this land or operate this facility, shall meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and shall also comply with the following:

A. PROHIBITIONS

1. Leachate from wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State or the United States.
2. No additional wastes of any kind may be stored or deposited at this site.

3. The discharger shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

a. Surface Waters

1. Floating, suspended, or deposited macroscopic particulate matter or foam.
2. Bottom deposits or aquatic growth.
3. Alteration of temperature, turbidity, or apparent color beyond natural background levels.
4. Visible, floating, suspended or deposited oil or other products of petroleum origin.
5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

1. The groundwater shall not be degraded as a result of the waste disposal operation.

B. SPECIFICATIONS

1. The discharger shall implement the construction of the cover of the landfill and complete the closure of this site, as described in the reports cited in Finding No. 11 of this Order, and any other reports required to be submitted in compliance with this Order.
2. The site shall not be irrigated in order to minimize infiltration of water through the final cover and into the buried refuse.
3. The site shall be protected from any washout or erosion of wastes or covering material and from inundation which could occur as a result of a 100 year 24 hour precipitation event.
4. Surface drainage from tributary areas, and internal site drainage from surface and subsurface sources, shall not contact or percolate through wastes during the life of the site. Drainage ditches constructed over refuse fill will be underlain with a minimum 5-foot thickness of compacted earthfill.

5. Measures shall be taken to assure that the leachate monitoring and collection system, groundwater monitoring wells, and methane monitoring probes will remain operational for as long as the wastes pose a threat to water quality.
6. The discharger shall ensure that the foundation of the site, the refuse fill, and the structures which control leachate, surface drainage, erosion and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.
7. The discharger shall install any additional groundwater and leachate monitoring devices and methane monitoring probes required to fulfill the terms of any Self-Monitoring Program issued to the discharger in order that the Board may evaluate compliance with the conditions of this Order.
8. The discharger shall ensure that the buried refuse does not become saturated with water from any source whatsoever.
10. The discharger shall operate the Waste Management Unit so as not to cause a statistically significant difference to exist between water quality at the compliance points and the following Water Quality Protection Standards (WQPS). The compliance points is the groundwater monitoring well located at the downgradient edge of Blake Court as shown on Attachment B. The background well is located in the drainage basin east of the fill area.

(The WQPS for this site will be established after one years worth of monitoring data has been collected from the compliance points and background monitoring wells.)

C. PROVISIONS

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions immediately upon adoption of this Order.
2. The discharger shall submit a report by January 1, 1988 that evaluates the impact of methane gas on the adjacent properties and buildings. This report shall evaluate the amount of methane being produced in the fill area, migration of gas beyond the boundary of the fill area, and the need for venting of any buildings or the installation of a gas extraction system to prevent flammable concentrations of methane from accumulating in any buildings.

3. The discharger shall submit evidence of an irrevocable post-closure monitoring and maintenance fund that will provide sufficient funds for the maintenance and monitoring of this site for a period of 15 years, pursuant to Section 2580 (f) of Subchapter 15, by July 1, 1987
4. The discharger shall submit the as built closure certification report by July 1, 1987 that documents compliance with this Order and Subchapter 15. This report shall show the location of two permanent monuments from which the location of the wastes can be determined pursuant to Section 2580 (d) of Subchapter 15 and document that the site has been completely closed according to the closure plan and the requirements of this Order.
5. The discharger shall submit an application to establish Water Quality Protections Standards pursuant to Article 5 of Subchapter 15 by April 1, 1988.
6. The discharger shall file with the Regional Board quarterly self-monitoring reports performed according to any self-monitoring program issued by the Executive Officer.
7. All reports pursuant to these Provisions shall be prepared under the supervision of a registered civil engineer or certified engineering geologist and are subject to the approval of the Executive Officer.
8. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
9. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal areas or the ownership of the site.
10. The discharger shall maintain a copy of this Order at the site, or at the offices of the Southampton Company so as to be available at all time to site operating personnel.
11. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of this waste discharge or related operations.

12. The discharger shall maintain all devices or designed features installed in accordance with this Order such that they continue to operate as intended without interruption except as a result of failures which could not have been reasonably foreseen or prevented by the discharger.
13. The discharger shall permit the Regional Board or its authorized representative, upon presentation of credentials:
  - a. Entry upon the premises on which wastes are located or in which any required records are kept.
  - b. Access to copy any records required to be kept under the terms and conditions of this Order.
  - c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.
  - d. Sampling of any discharge or groundwater covered by this Order.
14. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on February 18, 1987.

  
Roger B. James  
Executive Officer

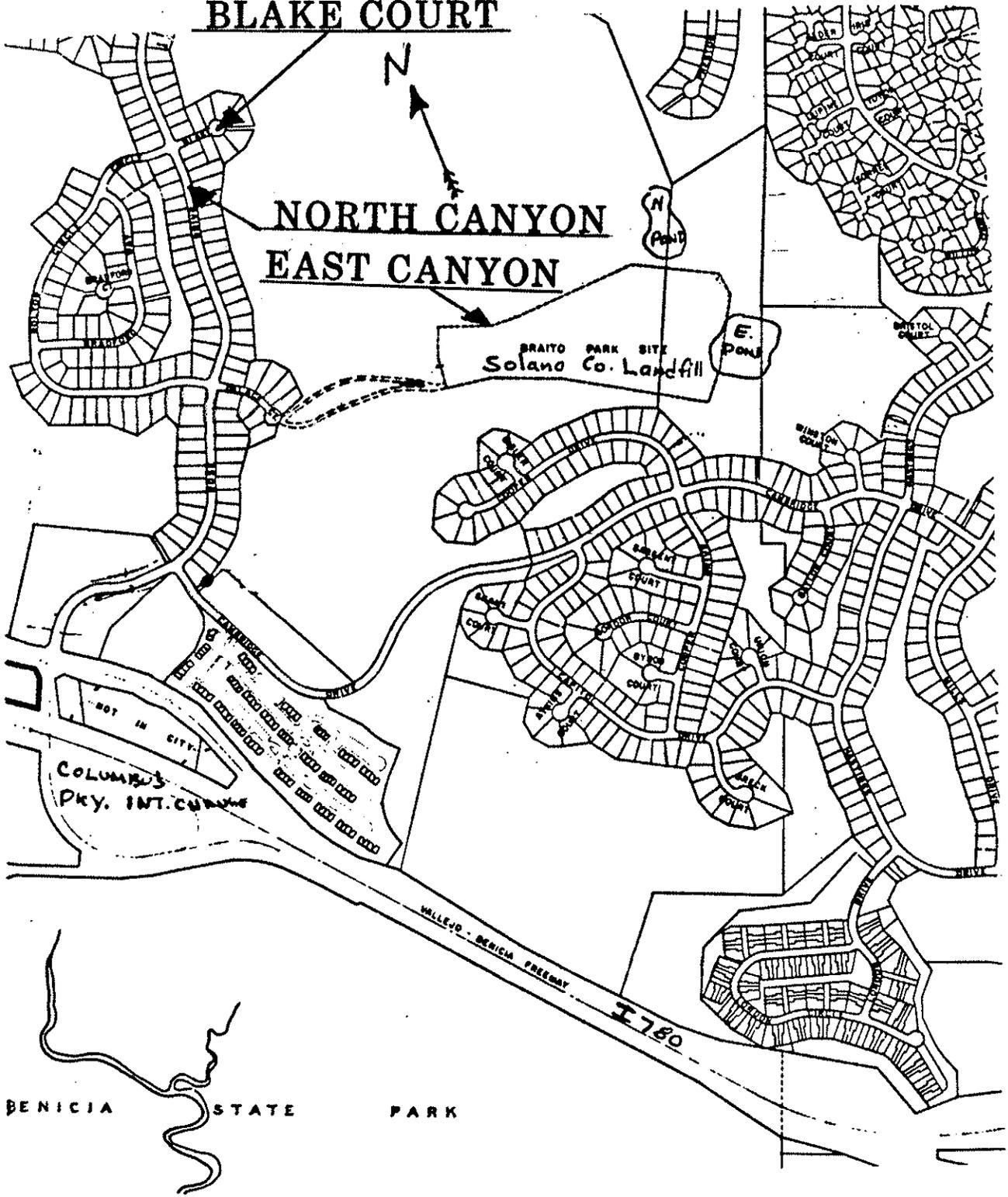
Attachments: A) Site location map  
B) Blake Court fill area map  
C) Blake Court cross section  
D) Self Monitoring Program

**BLAKE COURT**

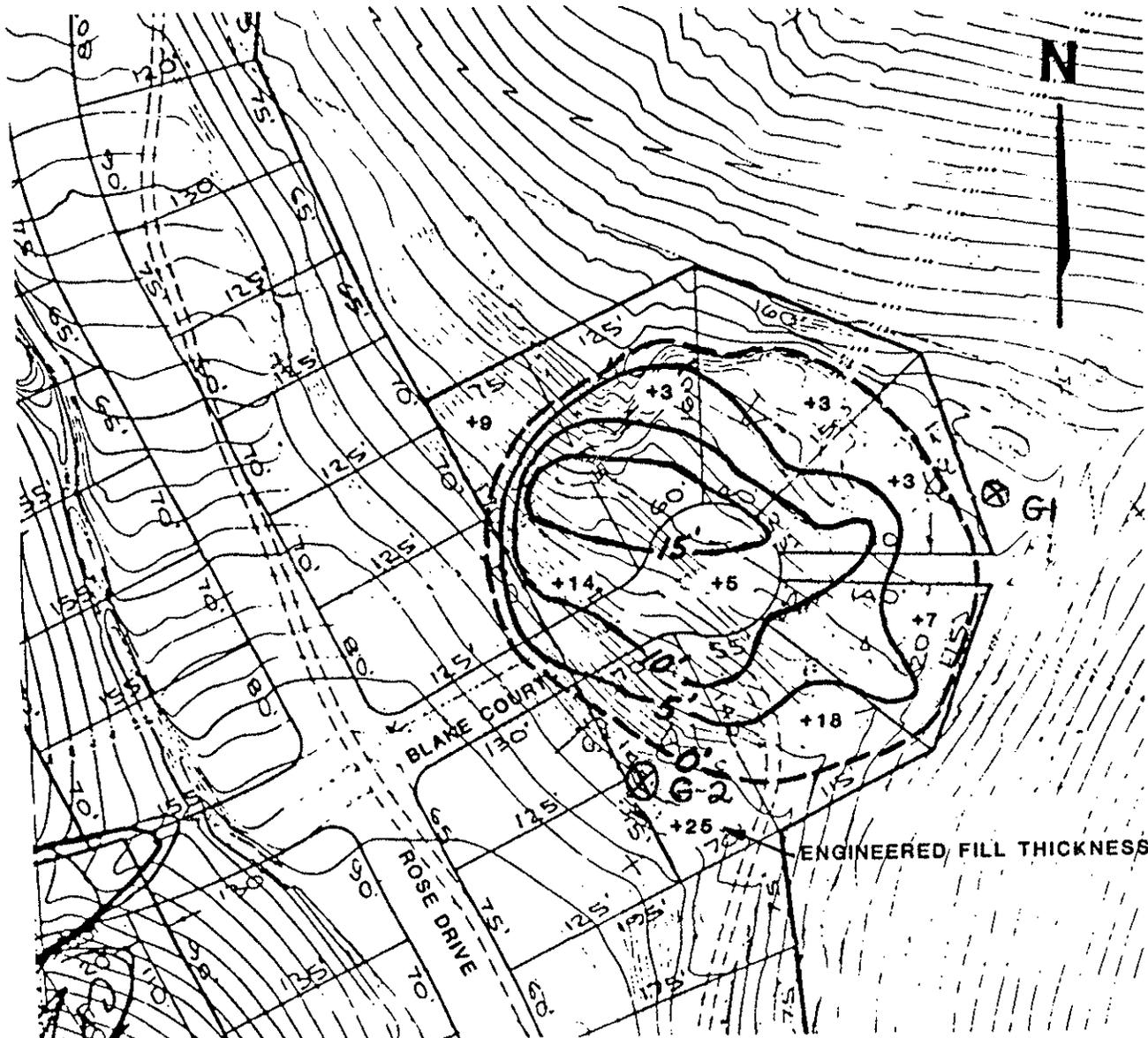


**NORTH CANYON**  
**EAST CANYON**

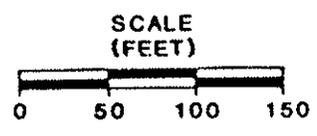
BRAYTON PARK SITE  
Solano Co. Landfill



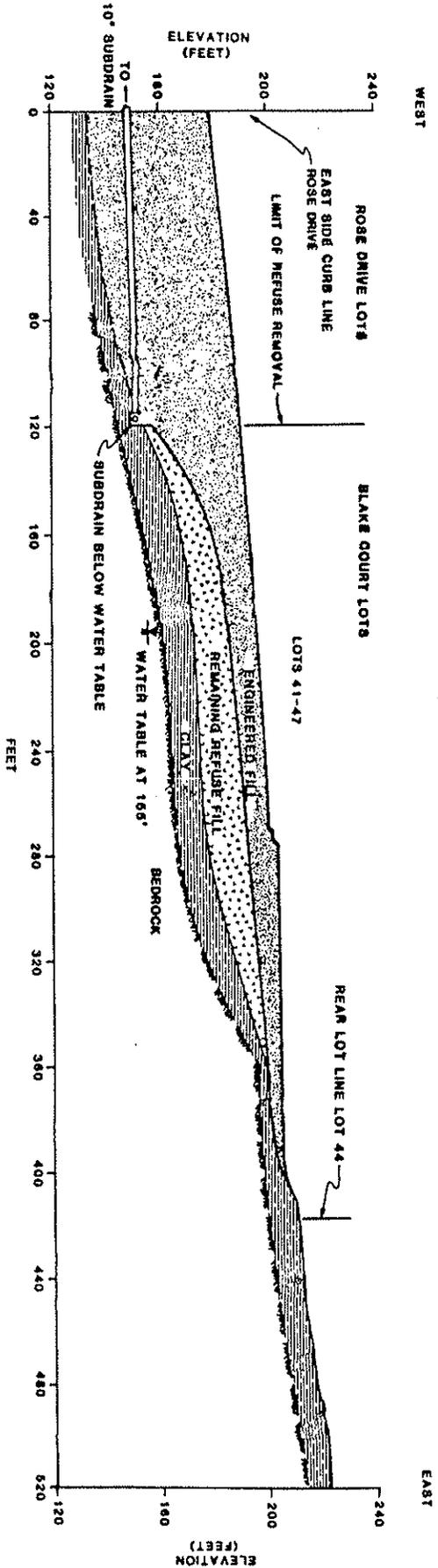
<b>STATE OF CALIFORNIA</b> <b>REGIONAL WATER QUALITY CONTROL BOARD</b> <b>SAN FRANCISCO BAY REGION</b>		
ATTACHMENT A: SOLANO COUNTY SANITARY LANDFILL SITE LOCATION MAP		
DRAWN BY:	DATE:	DRWG. NO.



⊗ = MONITORING WELL LOCATION



STATE OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN FRANCISCO BAY REGION		
ATTACHMENT B: BLAKE COURT FILL AREA AREAL EXTENT OF REFUSE WITH DEPTH OF REFUSE CONTOURS AND COVER THICKNESS. WELL LOCATIONS.		
DRAWN BY:	DATE:	DRWG. NO.



STATE OF CALIFORNIA  
 REGIONAL WATER QUALITY CONTROL BOARD  
 SAN FRANCISCO BAY REGION

ATTACHMENT C: BLAKE COURT CROSS SECTION

DRAWN BY:

DATE:

DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

SOUTHAMPTON COMPANY, CITIZENS SAVINGS AND LOAN  
ASSOCIATION, ALMA ASSOCIATES, AND ALMA  
ASSOCIATES DBA SOUTHAMPTON COMPANY,  
SOLANO COUNTY SANITARY LANDFILL  
NORTH CANYON BLAKE COURT FILL AREA  
CLASS III DISPOSAL SITE  
BENICIA, SOLANO COUNTY

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16. This Self-Monitoring Program is issued in accordance with Section C.6 of Regional Board Order No. 87-7.

The principal purposes of a self-monitoring program by a waste discharger are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to most recent version of Standard Methods for the Analysis of Wastewater.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State Department of Health. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

## C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.
2. Receiving water(s) refers to any water which actually or potentially receives surface or groundwaters which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill, the unnamed creek, Southampton Marsh and Southampton Bay are considered the receiving waters.
3. Standard observations refer to:
  - a. Receiving Waters
    - 1) Discoloration and turbidity: description of color, source, and size of affected area.
    - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
    - 3) Evidence of beneficial use: presence of water associated wildlife.
    - 4) Flow rate.
    - 5) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.
  - b. Perimeter of the waste management unit.
    - 1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
    - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
    - 3) Evidence of erosion and/or daylighted refuse.
  - c. The waste management unit.
    - 1) Evidence of ponded water at any point on the waste management facility.
    - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
    - 3) Evidence of erosion and/or daylighted refuse.

4. Standard analysis and measurements refer to:

- a. pH
- b. Electrical Conductivity (EC)
- c. Total Dissolved Solids (TDS)
- d. Total Phenols
- e. Chloride
- f. Total Organic Carbon
- g. Nitrate Nitrogen
- h. Total Kjeldahl Nitrogen.
- i. Water elevation in feet above Mean Sea Level.
- j. Settleable Solids ml/l/hr

D. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B, and the requirements of Article 5 of Subchapter 15.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used. A reference to a specific section of a reference required in Part A Section B is satisfactory.
5. Calculation of results.
6. Results of analyses, and detection limits for each analyses.

F. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Written self-monitoring reports shall be filed each calendar quarter by the fifteenth day of the following month. In addition an annual report shall be filed as indicated in F.2 The reports shall be comprised of the following:

- a. Letter of Transmittal

A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the past quarter and actions taken or planned for correcting the violations, such as operation modifications and/or facilities expansion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last quarter this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

- b. Each report shall include a compliance evaluation summary sheet. This sheet shall contain:

1. The sample mean and the sample variance for all sample sets taken from all compliance points, and shall determine if the difference between the mean of each sample set and the water quality protection standard is significant at the 0.05 level using Cochran's Approximation to the Behrens-Fisher Student's t-testas described in Appendix II of Subchapter 15. The discharger may propose an alternative statistical procedure to be used in making this determination pursuant Section 2555(h)(3) of Subchapter 15. If a statistically significant difference is found this shall be reported as a suspected requirement violation in the letter of transmittal.



Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS .

A. On-site Observations

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 thru V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.	Standard observations for the waste management unit.	Quarterly
P-1 thru P-'n' (perimeter)	Located at equidistant intervals not exceeding 500 feet around the perimeter of the disposal area.	Standard observations for the perimeter.	Quarterly

A map showing visual and perimeter compliance points (V and P stations) shall be submitted by the discharger in the quarterly monitoring report.

C. Groundwater Monitoring

STATION	DESCRIPTION	OBSERVATION/ ANALYSIS	FREQUENCY
G-1  (Groundwater background)	To be installed*	Standard analysis other than "j". **	Once per quarter.
G-2  (Groundwater compliance point)	To be installed*	Same as Station G-1	"

\*Monitoring wells G-1 and G-2 shall be installed at the locations shown on Attachment B of Order No. 87-xxx. The wells shall be constructed to monitor the first encountered groundwater at a depth of approximately 20 to 30 feet below the ground surface. The wells shall be constructed of 4 inch diameter PVC.

\*\*Complete Priority Pollutant Scan for all priority pollutant heavy metals and using EPA methods 624 and 625 upon installation of wells G-1 and G-2.

## 2. CONTINGENCY REPORTING

- A. A report shall be made in writing to the Regional Board within seven days if a statistically significant difference is found between a self-monitoring sample set and a WQPS. Notification shall indicate what WQPS(s) have been exceeded. The discharger shall immediately resample at the compliance point(s) where this difference has been found and analyze another sample set of at least four portions split in the laboratory from the source sample.
- B. If resampling and analysis confirms the earlier finding of a statistically significant difference between self-monitoring results and WQPS(s) the discharger must submit to the Regional Board within 90 days an amended Report of Waste Discharge for establishment of a verification monitoring program meeting the requirements of Section 2557 of Subchapter 15. This submittal shall include the information required in Section 2556(b)(2) of Subchapter 15.
- C. The discharger must notify the Regional Board within seven days if the verification monitoring program finds a statistically significant difference between samples from the verification monitoring program point of compliance and the WQPS(s)
- D. If such a difference or differences are found by the verification monitoring program it will be concluded that the landfill is out of compliance with this Order. In this event the discharger shall submit within 180 days an amended Report of Waste Discharge requesting authorization to establish a corrective action program meeting the requirements of Section 2558 of Subchapter 15. This submittal shall include the information required in Section 2557(g)(3) of Subchapter 15.
- E. A report shall be made by telephone of any seepage from the disposal area. A written report shall be filed with this Board within five days. This report shall contain the following information: 1) a map showing the location(s) of discharge, 2) approximate flow rate, 3) nature of effects; i.e. all pertinent observations and analyses, and 4) corrective measures underway or proposed.

3. CONTINGENCY MONITORING

- A. Methane gas monitoring probes shall be installed at the site boundary nearest any structure that is constructed within 1000 feet of the Waste Management Facility; and as shown in the November 1986 EMCON Associates report cited in Finding No. 11 of Order No. 87-7. (Probes B-1 thru B-8) These probes shall be monitored at least once per quarter and more frequently as determined at the time of installation, and results of such monitoring reported in the quarterly self-monitoring reports.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 87-7.
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the discharger.



Roger B. James  
Executive Officer

February 16, 1987  
Date Ordered